38. The article of manufacture of claim 1, wherein the medium includes information identifying a hobby of a user.

39. The article of manufacture of claim 1, wherein the medium includes information identifying spending habits of a user.

40. The article of manufacture of claim 1, wherein the medium includes information identifying viewing habits of a user.

41. The article of manufacture of claim 1, wherein the medium includes information identifying demographic information about a user.

42. The article of manufacture of claim 1, wherein the medium includes information identifying information concerning a Universal Resource Locator viewed by a user.

43. The article of manufacture of claim 1, wherein the medium includes at least one type of content to transmit to the machine from the group consisting of: advertising content, sport content, music content, audio content, program suggestions, entertainment content, live content, pre-recorded content, non-commercial content, news content, game show content, and educational content.

44. The article of manufacture of claim 1, wherein the content is transmitted to a machine via at least one hub of a distributed community network.

45. The article of manufacture of claim 44, wherein the at least one hub of a distributed computer network transmits content utilizing at least one communications medium selected from the group consisting of: the Internet, an intranet, radio frequency broadcast, wireless connection, satellite broadcast, cable, telephone circuit, fiber optics, a public network, and a private network.

46. The article of manufacture of claim 44, wherein the content further comprises information in at least one form selected from the group consisting of: an advertisement, a motion picture program, a live program, an audio program, a music video program, a pre-recorded program, a sports program, a live program, a non-commercial program, a game show program, and a news program.

47. The article of manufacture of claim 9, wherein the computer-readable medium further includes information identifying preferences of a user based on responses by the user to the survey questions.

48. The method of claim 11, wherein the specifying step includes specifying a hobby of the user.

49. The method of claim 11, wherein the specifying step includes specifying spending habits of a user.

50. The method of claim 11, wherein the specifying step includes specifying viewing habits of a user.

51. The method of claim 11, wherein the specifying step includes specifying demographic information about a user.

52. The method of claim 11, wherein the specifying step includes specifying information concerning a Universal Resource Locator viewed by the user.

53. The method of claim 22, wherein the monitored activity is at least one of the following: rate of clicking of the user, Universal Resource Locators selected by the user, time on the network for the user, and time the user spent in a chat room.

54. The method of claim 23, wherein the executable object is at least one of the following: a game, a program for use in an electronic commerce transaction, and an electronic shopping cart for use in an electronic commerce transaction.

55. The method of claim 11, wherein the specifying step comprises specifying the user-profile information for selecting to transmit to the machine at least one of the following selected from the group consisting of: advertising content, sport content, music content, audio content, program suggestions, icons representing particular services, entertainment content, and education content.

56. The method of claim 11, wherein the content is transmitted to the machine via at least one hub of a distributed community network.

57. The method of claim 56, wherein the at least one hub of a distributed computer network transmits content utilizing at least one communications medium selected from the group consisting of: the Internet, an intranet, radio frequency broadcast, wireless connection, satellite broadcast, cable, telephone circuit, fiber optics, a public network, and a private network.

58. The method of claim 56, wherein the content comprises information in at least one form selected from the group consisting of: an advertisement, a game show program, a motion picture program, a live program, an audio program, a music video program, a pre-recorded program, a sports program, and a news program.

59. The method of claim 11, further comprising transmitting a programming signal and at least one address identifying online content related to the program, the content being provided by an online information source connected via the network to the machine.

60. The method of claim 59, wherein the content of the programming signal is based on the user-profile information.

61. The method of claim 60, wherein the programming signal is transmitted via at least one transmission medium selected from the group consisting of: the Internet, an intranet, terrestrial broadcast, radio frequency broadcast, cable, satellite broadcast, fiber optics, a telephone circuit, a wireless connection, a public network, and a private network.

62. The method of claim 61, wherein the address is a uniform resource locator, the uniform resource locator identifying an online information source which is an Internet site.

63. The method of claim 62, wherein the online information source is selected from the group consisting of: an intranet, the Internet, a public network, and a private network.

64. The method of claim 59, wherein the at least one address identifying online content is based on the user-profile information.

65. The method of claim 59, wherein the content is intended to be presented automatically at a user device concurrently with or in conjunction with the program and wherein the content is related to the program.

66. The method of claim 59, wherein the content comprises content in a form selected from the group consisting of: text, graphics, video, data, audio, animation, video stills, slow frame video, and multimedia.

67. The method of claim 65, further comprising transmitting at least one address identifying online content, the online content relating to a program, wherein the user is automatically presented the online content at predetermined times during the program.

68. The method of claim 67, wherein the address is transmitted to the user independently of the program.

69. The method of claim 67, wherein the address is transmitted to the user prior to the initiation of the program.

70. The method of claim 67, wherein the address is transmitted to the user during the program.

71. The method of claim 67, wherein the online content comprises content in a form selected from the group consisting of: text, data, graphics, video, audio, animation, video stills, slow frame video, multimedia, and a sequence of individual frames.

72. The method of claim 67, wherein the online content is transmitted via at least one transmission medium selected from the group consisting of: the Internet, an intranet, terrestrial broadcast, radio frequency broadcast, cable, satellite broadcast, fiber optics, a telephone circuit, a wireless connection, a public network, and a private network.

Sub #1

73. The method of claim 11, further comprising transmitting a programming signal to a first receiver and at least one address identifying an online information source providing content related to the program to a second receiver.

74. The method of claim 73, further comprising the steps of:

establishing a communications link between the second receiver and the online information source identified by the address; and

receiving an online information segment associated with the programming signal.

75. The method of claim 73, wherein the programming signal is transmitted via at least one transmission medium selected from the group consisting of: the Internet, an intranet, terrestrial

broadcast, radio frequency broadcast, cable, satellite broadcast, fiber optics, a telephone circuit, a wireless connection, a public network, and a private network.

76. The method of claim 73, wherein the programming signal comprises at least one signal of a form selected from the group consisting of: text, data, graphics, video, audio, animation, video stills, slow frame video, multimedia, and a sequence of individual frames

77. The method of claim 21, wherein the dynamically updating step comprises:

selectively transmitting survey questions to the user;

receiving responses to the survey questions from the user; and

updating the user-profile information based on the responses of the user.

78. The method of claim 26, further comprising selecting for transmission to the machine, based on the user-profile information, at least one type of information selected from the group consisting of: advertising content, sport content, music content, audio content, program suggestions, icons representing particular services, entertainment content, and education content.

79. The method of claim 29 wherein the dynamically updating step comprises:

selectively transmitting survey questions to the user;

receiving responses to the survey questions from the user; and

updating the user-profile information based on the responses of the user.

80. The method of claim 30, wherein the monitored activity is selected from the group consisting of: a rate of clicking of the user, a Universal Resource Locator selected by the user, a time on the network for the user, and a time the user spent in a chat room.

81. The method of claim 31, wherein the executable object is at least one object selected from the group consisting of: a game, a program for use in an electronic commerce transaction, and an electronic shopping cart for use in an electronic commerce transaction.

82. An apparatus for compiling and maintaining information for use in routing and transmitting content to a machine via a network:

a means for receiving information for use in generating a user profile;

a means for specifying in the medium, based on the information received, a machine, an address associated with the machine, and user-profile information for use in determining a type of content to transmit to the machine; and

a means for storing the user-profile information in an hierarchical attribute value pair data structure.

83. The apparatus of claim 82, wherein the apparatus further comprises:

a means for specifying attributes of a user associated with the user-profile information; and

a means for specifying in a hierarchical structure, hierarchical relationships among at least two hierarchical attributes.

84. The apparatus of claim 83, wherein the apparatus further comprises a means for specifying information which identifies the user.

85. The apparatus of claim 83, wherein the apparatus further comprises a means for specifying information identifying at least one preference of the user.

86. The apparatus of claim 83, wherein the apparatus further comprises a means for specifying information identifying a room to which the user is assigned for a chat service.

87. The apparatus of claim 86, wherein the apparatus further comprises a means for specifying information identifying members of the room for the chat service.

88. The apparatus of claim 82, wherein the apparatus further comprises a means for specifying an indication of a directory for providing instructions for routing the content.

89. The apparatus of claim 82, wherein the apparatus further comprises a means for dynamically changing the user-profile information in the hierarchical structure based upon updated information.

90. The apparatus of claim 82, wherein the apparatus further comprises a means for querying the user in order to obtain the user-profile information.

91. The apparatus of claim 82, wherein the apparatus further comprises a means for transmitting content to the machine for a particular service based upon the user-profile information.

92. The apparatus of claim 82, wherein the apparatus further comprises a means for dynamically updating the user-profile information.

93. The apparatus of claim 82, wherein the apparatus further comprises:

a means for monitoring activity of a user associated with the user-profile information; and

a means for updating the user-profile information based upon the monitored activity.

94. The apparatus of claim 82, wherein the apparatus further comprises a means for specifying the user-profile information for use in selecting to transmit to the machine at least one

type of information selected from the group consisting of: information available via a Uniform Resource Identifier, video content, audio content, multimedia content, a particular video stream, and an executable object.

95. The apparatus of claim 94, wherein the executable object is at least one selected from a group consisting of: a game, a program for use in an electronic commerce transaction, and a electronic shopping cart for use in an electronic commerce transaction.

96. The apparatus of claim 82, wherein the apparatus further comprises a means for specifying the user-profile information for use in selectively transmitting survey questions to the user.

97. The apparatus of claim 82, wherein the apparatus further comprises a means for specifying an address associated with at least one device selected from the group consisting of: a personal computer, a television, a cable box, a satellite box, video game console, a personal digital assistant, and a hand-held computer.

98. The apparatus of claim 82, further comprising a means for specifying a hobby of a user.

99. The apparatus of claim 82, further comprising a means for specifying a spending habit of a user.

100. The apparatus of claim 82, further comprising a means for specifying a viewing habit of a user.

101. The apparatus of claim 82, further comprising a means for specifying demographic information about a user.

102. The apparatus of claim 82, further comprising a means for specifying information concerning a Universal Resource Locator viewed by a user.

103. The apparatus of claim 93, wherein the monitored activity is at least one type of activity selected from the group consisting of: a rate of clicking by the user, a Universal Resource Locator selected by the user, a network time for the user, and a time spent by the user in a chat room.

104. The apparatus of claim 82, further comprising a means for utilizing the user profile information to transmit to the machine, at least one type of content selected from the group

consisting of: advertising content, sport content, music content, audio content, program suggestions, icons representing particular services, entertainment content, and education content.

105. The apparatus of claim 82, wherein the apparatus further comprises:

a means for selectively transmitting survey questions to the user;

a means for receiving responses to the survey questions from the user; and

a means for updating the user-profile information based on the responses of the user.

106. A computer-readable medium containing programming instructions for controlling a computer system which routes and transmits content to a machine via a network, by:

receiving information for use in generating a user profile;

specifying, using the information, an identification of a machine, an address of the machine, and user-profile information for use in determining a type of content to transmit to the machine; and

storing the user-profile information in an hierarchical attribute value pair data structure.

107. The computer-readable medium of claim 106, wherein the instructions further include:

specifying attributes of a user associated with the user-profile information; and

specifying relationships among the attributes in a hierarchical structure.

108. The computer-readable medium of claim 107, wherein the instruction of specifying attributes of a user associated with the user-profile information further comprises specifying additional information identifying the user.

109. The computer-readable medium of claim 107, wherein the instruction of specifying attributes of a user associated with the user-profile information further comprises specifying information identifying preferences of the user.

110. The computer-readable medium of claim 107, wherein the instruction of specifying attributes of a user associated with the user-profile information further comprises specifying information identifying a room to which the user is assigned for a chat service.

111. The computer-readable medium of claim 109, wherein the instruction of specifying attributes of a user associated with the user-profile information further comprises specifying information which identifies members of the room for the chat service.

112. The computer-readable medium of claim 109, wherein the instruction of specifying attributes of a user associated with the user-profile information further comprises specifying an indication of a directory for use in providing instructions for routing the content.

113. The computer-readable medium of claim 107, wherein the instructions further comprise dynamically changing the user-profile information in the hierarchical structure based upon updated information.

114. The computer-readable medium of claim 107, wherein the instructions further comprise querying the user in order to obtain the user-profile information.

115. The computer-readable medium of claim 106, wherein the instructions further comprise transmitting content to the machine for a particular service based upon the user-profile information.

116. The computer-readable medium of claim 106, wherein the instructions further comprise dynamically updating the user-profile information.

117. The computer-readable medium of claim 116, wherein the instruction of dynamically updating the user-profile information further comprises:

monitoring activity of a user associated with the user-profile information; and

updating the user-profile information based upon the monitored activity.

118. The computer-readable medium of claim 106, wherein the specifying instruction further utilizes the user-profile information to transmit to the machine, at least one type of content selected from the group consisting of: Uniform Resource Identifier, video content, audio content, multimedia content, a particular video stream, and an executable object.

119. The computer-readable medium of claim 106, wherein the specifying instruction further comprises specifying the user-profile information and selectively transmitting survey questions to the user based upon the user-profile information.

120. The computer-readable medium of claim 106, wherein the specifying instruction further comprises specifying the address of at least one device selected from the group consisting of: a personal computer, a television, a cable box, a satellite box, video game console, hand-held computer, and a personal digital assistant.

121. The computer-readable medium of claim 106, wherein the specifying step further comprises specifying a hobby of a user.

122. The computer-readable medium of claim 106, wherein the specifying step further comprises specifying a spending habit of a user.

123. The computer-readable medium of claim 106, wherein the specifying step further comprises specifying a viewing habit of a user.

124. The computer-readable medium of claim 106, wherein the specifying step further comprises specifying demographic information of a user.

125. The computer-readable medium of claim 106, wherein the specifying step further comprises specifying information concerning a Universal Resource Locator viewed by the user.

126. The computer-readable medium of claim 117, wherein the monitored activity is at least one selected from the group consisting of: a rate of clicking by the user, a Universal Resource Locator selected by the user, a time on the network for the user, and a time spent in a chat room by the user.

127. The computer-readable medium of claim 118, wherein the executable object is at least one selected from the group consisting of: a game, a program for use in an electronic commerce transaction, and an electronic shopping cart for use in an electronic commerce transaction.

128. The computer-readable medium of claim 106, wherein the specifying step further comprises utilizing the user profile information to select the content to transmit to the machine,

wherein the content is at least one type of content selected from the group consisting of: advertising content, sport content, music content, audio content, program suggestions, icons representing particular services, entertainment content, and education content.

129. The computer-readable medium of claim 113, wherein the step of dynamically changing the user-profile information comprises:

selectively transmitting survey questions to the user;

receiving responses to the survey questions from the user; and

updating the user-profile information based on the responses of the user.

130. A computer-readable medium containing programming instructions which control a computer system, the computer system being used to route and transmit content to a machine via a network, by:

establishing a network connection to a machine;

accessing via the network, a hierarchical attribute value pair data structure; and

transmitting information, via the network connection, which specifies an identification of the machine in the data structure, an address of the machine, and user-profile information for use in determining a type of content to transmit to the machine.

131. The computer-readable medium of claim 130, wherein the instructions further comprise storing the data structure in a memory associated with the machine.

132. The computer-readable medium of claim 130, wherein the instructions further comprise storing the data structure in a memory associated with a server connected via the network to the machine.

133. The computer-readable medium of claim 130, wherein the instructions further comprise dynamically updating the user-profile information.

134. The computer-readable medium of claim 133, wherein the instruction of dynamically updating the user-profile information comprises:

monitoring activity of a user associated with the user-profile information; and

updating the user-profile information based upon the monitored activity.

135. The computer-readable medium of claim 130, wherein the instructions further comprises selecting, based upon the user-profile information for transmission to the machine, at least one incidence of information selected from the group consisting of: information available via a Uniform Resource Identifier, video content, audio content, multimedia content, a particular video stream, and an executable object.

136. An apparatus for accessing information for use in routing and transmitting content to a machine via a network, comprising:

a means for establishing a network connection to a machine;

a means for accessing, via the network connection, a hierarchical attribute value pair data structure stored in a computer-readable medium; and

a means for transmitting information via the network, wherein the information is specified in the data structure and includes an address of the machine and user-profile information; wherein the user-profile information is used to determine a type of content to transmit to the machine.

137. The apparatus of claim 136, wherein the apparatus further comprises a means for storing the data structure in a memory associated with the machine.

138. The apparatus of claim 136, wherein the apparatus further comprises a means for storing the data structure in a memory associated with a server connected, via the network, to the machine.

139. The apparatus of claim 136, further comprising a means for dynamically updating the user-profile information.

140. The apparatus of claim 139, wherein the means for dynamically updating the user-profile information further comprises:

a means for monitoring activity by a user associated with the user-profile information; and

a means for updating the user-profile information based upon the monitored activity.

141. The apparatus of claim 136, wherein the apparatus further comprises a means for selecting, based upon the user-profile information, at least one type of content selected from a group consisting of: advertising content, sport content, music content, audio content, program suggestions, icons representing particular services, entertainment content, and education content; wherein the content is transmitted to the machine.

142. A method for receiving customized on a machine via a network, comprising:

establishing a network connection;

receiving content information via the network connection, wherein the content is dependent on an identification of a machine, an address of the machine, and user-profile information.

143. The method of claim 142, wherein the content information includes at least one type of content selected from the group consisting of: information available via a Uniform Resource Identifier, video content, audio content, multimedia content, a particular video stream, and an executable object.

144. A method for determining summary information by managing a plurality of user profiles, comprising:

receiving a plurality of user profiles;

processing the plurality of user profiles; and

determining summary information based on the processing of the user profiles.

145. The method of claim 144, further comprising the step of creating a group profile.

146. The method of claim 144, wherein the summary information is based on at least one type of information selected from the group consisting of: viewing patterns, clicking patterns, purchase patterns, listening patterns, time spent by users in chat rooms, hobbies of the users, geographic location, demographic information of users, responses to survey questions, and a type of machine utilized by a user.

147. The method of claim 145, further comprising the step of transmitting content to at least one machine associated with a user based on the group profile.

148. The method of claim 147, wherein the content comprises information in at least one form selected from a group consisting of: an advertisement, a game show program, a motion picture program, a live program, an audio program, a music video program, a pre-recorded program, a sports program, a non-commercial program, and a news program.

Dated: 28 September 2000.

John T. Kennedy, Reg. No. 42,717
Customer No. 20686

JTK/dtc